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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 11348P1 WO/JMH	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. PCT/GB2004/003855	International filing date (day/month/year) 09.09.2004	Priority date (day/month/year) 24.10.2003
International Patent Classification (IPC) or national classification and IPC A61L9/014, B01J20/28, A61L9/16		
Applicant RECKITT BENCKISER (UK) LIMITED et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 2 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 24.08.2005	Date of completion of this report 06.02.2006	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Marti, P Telephone No. +49 89 2399-7858 	

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**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/003855

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-10 as originally filed

**Claims, Numbers**

1-12 received on 26.08.2005 with letter of 23.08.2005

**Drawings, Sheets**

1/1 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-12
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-12
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: GB-A-2 375 959  
D2: WO 95/33619 A  
D3: US-A-6 012 643  
D4: WO 02/24238 A  
D5: WO 98/30326 A

2. Document D5 discloses an adsorbent media of a type formed from a sheet-form carrier substrate incorporating particulate odour-adsorbents therein (see page 1, lines 1-3). The sheet comprises a non-woven fibrous material (e.g. see page 4, lines 22-24). The odour-adsorbent is selected from carbon, zeolite, titanium dioxide, zinc oxide, and aluminium (see page 6, lines 11-20).

In his letter of 12.12.2005 the applicant disagreed in that D5 be considered as the closest prior art and he argued that D5 is not in the same technical field, since it is concerned with filter media, wherein fluids are directly passed through the filter media, while the present application is directed towards an odour-reducing article and a method of removing or mitigating odours by "natural" unenforced contact with the odour-reducing article. In the opinion of the applicant, this disparity is further reinforced by the differing patent classification, since D5 is classified under B01J20/28 and B01D39/00, whereas the present application falls under A61L9/014. The argumentation of the applicant is not convincing for the following reasons:

- D5 clearly teaches at page 1, lines 1-4 that "***The present invention relates to adsorbent media, particularly of a type formed from a sheet-form carrier substrate incorporating particulate adsorbents therein***". D5 further teaches on page 1, lines 9-14 that "***The invention thus finds application in the adsorption of toxic, odiferous, nuisance, radioactive or irritant chemicals from a gaseous or vapour atmosphere, or from a body of liquid, particularly, but not exclusively, in removal of dissolved organic substances from aqueous liquids for example for personal***

*protection*". The fact that adsorbent media of D5 can be used in filtration is rather related to the use of the article than to the article as such. The filter media of D5 is also "an odour-reducing article" in the sense of present claim 1. Note that neither claim 1 nor the method claim 11 define that the article is to be used in "a passive deodouriser", removing the odours "by "natural" unenforced contact with the odour-reducing article", as asserted by the applicant.

Moreover, the article defined in present claim 1 can be well used as a filter media by passing e.g. an air stream through it.

- According to page 5, lines 6-7 of the present application, "***The sheet and/or odour-reducing material may be as further described in WO 98/303026***", i.e. the applicant has well considered the disclosure of D5 for preparing the present invention.

- Note also that the present application is not only classified in the field A61L9/014 but also in B01J20/38, i.e. the same class as the article of D5.

Consequently, the examiner is still of the opinion that D5 is the closest prior art for the subject-matter of present claims 1, 10 and 11.

The sheet defined in claim 1 differs from the sheet disclosed in D5 in that it is divided into a plurality of tear-off pieces. The objective technical problem to be solved by claim 1 over D5 can be seen in the provision of an odour-reducing sheet which can be easily separated into smaller pieces.

However, the division of odour-reducing sheets into a plurality of tear-off pieces is well known in the art, as shown by documents D1-D4:

D1 discloses an air purifying sheet comprising a deodorising base (see page 3, line 5), wherein the sheet (= single elongated strip, see page 4, lines 9-13) is divided in a plurality of smaller sheets separated by a row of perforations. Each sheet can be torn off as when required.

D2 discloses an odour-reducing sheet (= odorant composition layered on a substrate). The sheet is provided with perforations (70) to facilitate tear off of the individual portions (see page 21, lines 6-17).

D3 discloses an odour-reducing sheet (= device for the controlled release of vapour, see Fig. 1 and 2) wherein the sheet is divided into a plurality of tear-off pieces (= tear strips, see abstract).

D4 discloses an odour-reducing sheet (see page 4, lines 8-33), which is divided into a plurality of tear-off pieces (sections, 17).

A skilled person being aware of D5 and looking for a way to solve the above mentioned problem would obviously look in any of D1-D4 for the measures applied therein.

Therefore, the subject-matter of claim 1 does not involve an inventive step in the light of D5 in combination with any of D1 to D4 (Art. 33.3 PCT).

The same applies to claims 10 and 11.

3.1 The adsorbent media disclosed in D5 in form of a sheet comprises the features of dependent claims 2-6.

3.2 The features of dependent claims 7-9 and 12 are anticipated by D1.

#### **Re Item VII**

##### **Certain defects in the international application**

1. Documents D1-D4 are not acknowledged in the description, contrary to the requirements of Rule 5.1(a)(ii) PCT.

#### **Re Item VIII**

##### **Certain observations on the international application**

1. The method claim 11 should probably refer back to claims 1 to 9 and not to 1-10, since claim 10 is directed to an odour control kit.

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/GB2004/003855

## Claims

1. An odour-reducing sheet divided into a plurality of tear-off pieces, wherein the sheet comprises a non-woven, air permeable fibrous material which carries an odour-adsorbing material selected from carbon, a zeolite, titanium dioxide, zinc oxide, aluminium, and mixtures thereof.
2. An odour-reducing sheet as claimed in claim 1, wherein the odour-adsorbing material comprises particulate activated carbon.
3. An odour-reducing sheet as claimed in any of claim 1 or 2, wherein the odour-adsorbing material is present in the sheet in an amount of at least 5%(w/w) of the total weight of the sheet.
4. An odour-reducing sheet as claimed in any of claims 1 to 3, wherein the odour-adsorbing material is present in the sheet in an amount of no more than 60%(w/w) of the total weight of the sheet.
5. An odour-reducing sheet as claimed in any of claims 1 to 4, wherein the odour-adsorbing material comprises a binder arranged to inhibit or substantially avoid shedding of the odour-reducing material from the sheet.
6. An odour-reducing sheet as claimed in claim 5, wherein the binder is present in the sheet in an amount of at least 5%(w/w), of the total weight of the sheet.
7. An odour-reducing sheet as claimed in any preceding claim, wherein the sheet comprises polyester, polyamide, cellulosic or polyamide fibres, or a mixture thereof.

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8. An odour-reducing sheet as claimed in any preceding claim, wherein the sheet is divided into a plurality of tear-off pieces by perforations.
9. An odour-reducing sheet as claimed in any preceding claim, wherein the sheet is of area in the range  $0.4-1.2\text{m}^2$  and is divided into a plurality of tear-off pieces each of area in the range  $400-1000\text{cm}^2$ .
10. An odour-control kit comprising an odour-reducing sheet as claimed in any preceding claim and a resealable plastics closure, and optionally adhesive strips and at least one clothes hanger.
11. A method of reducing odours using an odour-reducing sheet as claimed in any of claims 1 to 10, or of portion(s) thereof, the portion(s) having been torn from the sheet, the sheet or portion(s) thereof being disposed at a locus in which the unwanted odours are present.
12. A method as claimed in claim 11, wherein the odour-reducing sheet or portion(s) thereof are used in one of the following ways: placed under a mat, rug or carpet; placed under or over a mattress; placed in a pet basket; placed in a laundry basket; placed in luggage before storage; placed in a car footwell or car boot; placed under a fitted chair or sofa cushion; placed inside an item or footwear, for example a shoe or boot; used to line a drawer; placed in a plastics closure with items requiring deodorising; or fashioned into a shroud-like cover inside which a jacket, coat, suit or trousers are placed.

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AMENDED SHEET

26/08/2005